



## Loudoun County, Virginia

[www.loudoun.gov](http://www.loudoun.gov)

Office of the County Administrator

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August 28, 2012

RE: COMMENTS OF LOUDOUN COUNTY, VIRGINIA

Proceeding Number 11-60

Derecho / 9-1-1

To Whom it May Concern:

The County of Loudoun, Virginia, submits these comments in response to the Public Notice released July 18, 2012, seeking comment on the causes of the communications outages, especially the 9-1-1 outages, from the June 29, 2012, Derecho. The effect of those outages on 9-1-1 systems and services, the impact of the outages on various segments of the public, including consumers, public safety officials, and providers of critical services, and the resiliency and reliability of 9-1-1 communications are detailed in this response.

The Derecho storm hit Loudoun County at approximately 10:30 p.m. on Friday, June 29, 2012. The first indication of 9-1-1 network trouble for Loudoun County came at approximately 6:55 a.m. on Saturday, June 30, 2012 when Verizon notified the Loudoun County 9-1-1 Call Center (PSAP) or Emergency Communications Center (ECC), via a cryptic email from a notification mailing list, that there was trouble at the Arlington Central Office. The email stated "per ncc says arlington co containing dms & 5ee and dms 200 switches is without power or back up battery / generator/ Bridge # established for updates : 8666161837 pin 5727020// main trble is caller is in area cannot call 911/ vz power tech on site at co/." The references to Arlington suggested that 9-1-1 service was affected only in Arlington County. Without a corresponding phone call explaining the situation or verbiage of the email, Loudoun County's ECC staff continued with their normal operations, unaware that incoming 9-1-1 call service from Verizon could deteriorate.

At 8:26 a.m., the Loudoun County Emergency Communications Center (ECC) noticed ANI (Automatic Number Information) missing from some incoming calls. At 8:47 a.m., another cryptic message via notification email stated "AK166533 Major e-911 outage" with no further information.

At 6:36 p.m., the first email from a Verizon representative stated "Verizon is continuing to work through multiple issues related to the violent storms that have passed through our region. Some 911 services have been restored but not all. Most area PSAPs are receiving at least some 911 calls if not all. There are still problems with local dialing." Emails continued to come from the Verizon representative about every eight (8) hours, including one on July 3 stating "Our 911 network is designed so that there is no one single point of failure anywhere in the network that can interrupt 911 service. Unfortunately, the nature and severity of the storm that we experienced this past weekend damaged multiple Verizon facilities inside and outside of offices in the affected area, and that is what led to the weekend's 911 issues."

After the storm cleared, Loudoun County became aware that other PSAPs had completely lost all 9-1-1 and administrative telephone capabilities. The Loudoun County PSAP is served by 9-1-1 lines from Alexandria and Fairfax as well as by 9-1-1 lines originating in Winchester and Fredericksburg. This is due to historical local phone company boundaries. Other than the ANI failures from many wireless lines and partial trunk failures from Winchester, Loudoun County was not made aware of any 9-1-1 call failures to its ECC in relation to the Arlington or Fairfax Central Office failures. In the weeks following the storm, during regional and state PSAP Director meetings, Verizon continuously stated that "only 4 of 168 PSAPs in Virginia failed." Verizon also continues to state that "the other 164 PSAPs were not significantly impacted."

No PSAPs failed; Verizon failed. In addition to its primary 9-1-1 Call Center, Loudoun County maintains an alternate PSAP in Leesburg. The alternate facility serves as a backup in the event the County's primary 9-1-1 Call Center should become inoperable or uninhabitable for any reason including failures of our own equipment or County infrastructure. All 168 of the 9-1-1 Call Centers in Virginia operated exactly as designed and intended.

In short, the 9-1-1 outage was caused by the failure of Verizon's backup power sources and equipment failure/damage. The power failures in Arlington and Fairfax had a top-down, cascading, and negative effect on intra-network communications between Verizon central offices. The 9-1-1 service is a service in which responsiveness is measured in seconds, not minutes or hours. Yet when Verizon's equipment failed, and 9-1-1 calls were not being routed to Loudoun County's PSAP, Verizon failed to notify the County.

During the 36 hour time period of June 30, 2012 at 12:00 a.m. through July 1, 2012 at 12:00 p.m., 81 (eighty one) 9-1-1 calls were "blocked" or not delivered to the Loudoun County PSAP. During the same 36 hour period, 356 calls for service were processed via 9-1-1 wire line and wireless trunks. Verizon provided the number of blocked calls in an email, without any supporting data or reports. Therefore, the information does not show when calls were placed or exactly how many different callers were unable to get through to the 9-1-1 Call Center.

It took 39 days, following the Derecho storm, for Verizon to provide the information on how many calls were not processed, before Loudoun County's PSAP Director could calculate the percentage of missed calls; 23.75 percent. The industry standard for 9-1-1 call delivery is referenced in service contracts as "P.01 Service" and means that only one (1) missed call out of 100 is acceptable for any reason, network failure or otherwise.

One month following the Derecho storm, Verizon representatives visited in person with the Loudoun County PSAP Director and ECC Manager to explain the network failures. When describing the outcome of the failures, Verizon's representatives stated "it wasn't bad" and "fortunately not as bad as your neighbors" (referring to Fairfax County.) As stated earlier, the industry standard for 9-1-1 call delivery is that only 1 missed call out of 100 is acceptable for any reason. Therefore, it is the opinion of the Loudoun County PSAP Director and ECC Manager that anything over 1% should be considered "significant" or greatly impacted. However, Verizon uses the term "not significantly impacted."

This Derecho storm is the latest in a series of recent 9-1-1 problems in the National Capital Region that demonstrate that the 9-1-1 infrastructure is not as reliable as it needs to be. In addition to Verizon providing a redundant network of 9-1-1 network infrastructure and back-up power that should be Public Safety grade, Verizon's failure to communicate promptly needs correction. Loudoun County welcomes the opportunity to provide further information and participate in any and all strategic and technical meetings and sessions to assist in providing information that will ensure that these critical issues with Verizon are corrected.

Sincerely,



Tim Hemstreet